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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Amendments of Parts 2, 22, 90)
and 94 of the Commission's Rules)
and Regulations to Permit Routine)
Licensing and Use of)
Bi-Directional Signal Boosters)

RM - 8200

To: The Commission

COMMENTS OF THE
UTILITIES TELECOMMUNICATIONS COUNCIL
ON PETITION FOR RULEMAKING

Pursuant to Section 1.405 of the Commission's Rules, the Utilities Telecommunications Council (UTC) hereby submits the following comments with respect to the "Petition for Rulemaking" filed by TX RX Systems, Inc. (TX RX) with respect to the above captioned matter.^{1/}

I. INTRODUCTION

UTC is the national representative on communications matters for the nation's electric, gas, water, and steam utilities. Approximately 2,000 utilities are members of UTC, ranging in size from large combination electric-gas-water utilities serving millions of customers to small, rural electric cooperatives and water districts serving only a few thousand customers. UTC is

^{1/} On March 18, 1993, the FCC issued a public notice of the petition for rulemaking, FCC Report No. 1933. Thus, these comments are timely filed, being within the specified time under FCC Rule Sections 1.4 and 1.405.

also the FCC's certified frequency coordinator for the Power Radio Service.

All utilities depend upon reliable and secure communications facilities in carrying out their public service obligations. In order to meet these communications requirements, many utilities operate extensive telecommunications networks comprised of private land mobile radio systems and private multiple address systems (MAS). UTC is therefore pleased to have this opportunity to comment on the TX RX petition.

II. UTC SUPPORTS AN AMENDMENT OF PARTS 90 AND 94 OF THE FCC'S RULES TO ALLOW THE USE OF SIGNAL BOOSTERS

A. Signal Boosters Would Enhance Many Utility Operations

UTC generally supports TX RX's petition requesting that the Commission amend Parts 90 and 94 of its Rules to specifically allow private land mobile radio and private MAS licensees to operate signal boosters on a regular basis. A signal booster is a device that is used to improve communications in areas where normal radio transmissions are blocked due to natural or man-made obstacles. Signal boosters are used to fill-in "dead spots" and do not extend the originally transmitted signal beyond the licensee's service area.

There are many instances in which a signal booster would significantly enhance utility operations by providing signal coverage to locations that are often blocked by terrain or other RF barriers. For example, signal boosters would be of benefit to

utilities by allowing radio coverage in: generating plants; hydro-power plants; nuclear power plants; tunnels; open pit coal mines; canyons; valleys; and subterranean facilities.^{2/}

While current Commission Rules allow the use of signal boosters in the cellular radio service, use of these devices by private radio licensees is only allowed upon grant of a rule waiver. Such a requirement is unduly burdensome on the time and resources of applicants and the Commission staff. Accordingly, given the many useful applications of signal boosters to utility industry operations, UTC supports an amendment of existing Rules to allow the use of signal boosters in conjunction with exclusive-use 470-512 MHz and 800/900 MHz private land mobile radio systems, private paging systems in the 929-930 MHz band and private MAS systems.

III. THE RULES MUST ENSURE AGAINST HARMFUL INTERFERENCE

A. System Licensing and Notification is Needed for "Class A" Narrowband Signal Boosters

In its petition TX RX proposes the authorization of two distinct classes of signal boosters. The first class, referred to as "Class A" (narrowband) boosters, would consist of devices which rely on frequency conversion and filtering techniques to ensure that only those discrete signals intended to be transmitted are actually amplified. With a Class A device, the

^{2/} Signal boosters would also be subject to the same rules as other devices.

frequencies intended to be retransmitted undergo frequency conversion within the confines of the booster itself, although the output frequencies are identical to the input frequencies. In this situation, the frequency conversion which takes place within the booster is essential to ensuring that the booster amplifies only those frequencies intended to be retransmitted. Therefore, with Class A boosters, the booster design ensures that unwanted signals will not be amplified.

While the primary thrust of the TX RX petition addresses the authorization of Class A signal boosters in conjunction with 800/900 MHz private land mobile radio systems, private paging systems in the 929-930 MHz band and private MAS systems, the actual language of TX RX's proposed rules as contained in the Appendix to the petition also includes the frequency bands 150-174 MHz, 450-470 MHz and 470-512 MHz. UTC does not support the general authorization of Class A signal boosters in the private land mobile radio bands below 470 MHz as these frequencies are utilized on a shared basis. Signal boosters employed in a shared radio environment would have a much greater potential for harmful interference than the use of such devices on exclusive frequencies.^{3/} Accordingly, UTC urges the Commission to restrict its authorization of Class A signal boosters to those

^{3/} UTC also notes that the introduction of Class A signal boosters into the frequencies below 470 MHz could further complicate the Commission's on-going proceeding to "refarm" the private land mobile radio spectrum below 470 MHz, PR Docket No. 92-235. For example, under refarming all Class A signal boosters would have to be converted to a narrower bandwidth in order to avoid interference.

private land mobile frequencies that are allocated on an exclusive-use basis.^{4/}

Conventional private land mobile radio systems in the 470-512 MHz and 800/900 MHz bands that are not licensed on an exclusive basis should not qualify for the use of Class A signal boosters. However, if a licensee on a channel in the 470-512 MHz band or above 800 MHz achieves exclusivity, Class A signal boosters should be authorized. If the "exclusivity" is arrived at through the combined loading of more than one licensee, the concurrence of all co-channel users should be required prior to the authorization of Class A signal boosters.^{5/}

In determining the appropriate authorization procedure for Class A signal boosters, UTC recognizes the strong desire not to burden the commission staff and licensees with unnecessary licensing procedures. However, given the serious impact of harmful interference to utilities and other public safety/public service licensees, the Commission's signal booster rules must ensure against harmful interference. Accordingly, UTC suggests that at a minimum all licensees must: (1) obtain a blanket authorization from the Commission, under their license, to operate signal boosters generally; and (2) must provide notification to the FCC and the applicable frequency

^{4/} Consistent with this approach, UTC would support the use of signal boosters in the 220-222 MHz band.

^{5/} The Commission adopted a similar rule in its Report and Order on the use of secondary fixed signaling, PR Docket No. 91-322, 7 FCC Rcd 4574.

coordinator(s) regarding specific Class A narrowband signal booster deployment. In this way, there will be a method for licensees experiencing interference to identify the source.

B. Individual Licensing and Justification Needed for "Class B" Broadband Signal Boosters

The second class of boosters proposed by TX RX, referred to as "Class B" (Broadband) boosters, amplify whatever frequencies are received within the passband of the filter. TX RX claims that Class B boosters are ideal for tunnels and other confined areas where the possibility of "foreign" signals being fed into the boosters is remote. TX RX suggests that it would be appropriate for the FCC to impose on licensees employing Class B boosters the responsibility for remedying any harmful interference which the amplified signals might cause to other systems.

UTC considers the authorization of Class B broadband signal boosters as representing a significant potential for interference, and therefore opposes a blanket authorization of their use. Moreover, because of their operation over a broad band of frequencies it will be particularly difficult for a licensee to identify the source of interference caused by a Class B signal booster. TX RX's suggestion that the FCC impose on licensees employing Class B boosters the responsibility for remedying harmful interference would not impose a meaningful burden on system licensees, since such a requirement already exists for all private land mobile licensees.

applicants for Class B signal boosters utilizing methods to

Given the serious impact of harmful interference to utilities and other public safety/public service licensees, the Commission's signal booster rules must ensure against harmful interference. Accordingly, the FCC's rules should require all licensees to: (1) receive authorization to operate signal boosters generally; and (2) provide notification to the FCC and the applicable frequency coordinator(s) regarding specific Class A narrowband signal booster deployment. Moreover, the use of Class B broadband signal boosters should be subject to an individual licensing requirement and should be restricted to a "protected environment."

WHEREFORE, THE PREMISES CONSIDERED, the Utilities
Telecommunications Council respectfully requests the Commission
to take actions consistent with the views expressed herein.

Respectfully submitted.

CERTIFICATE OF SERVICE

I, Kim Winborne, a secretary with the Utilities Telecommunications Council, hereby certify that a copy of the foregoing comments was served by U.S. mail, postage prepaid, this 19th day of April, 1993, to each of the following:

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